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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,201	01/15/2002	Harry Rosenberg	(HO58-068) 34593 CON.1	4057
21567	7590	01/10/2005	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			DANG, PHUC T	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/053,201	ROSENBERG ET AL.	
	Examiner	Art Unit	
	PHUC T DANG	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on April 19, 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31,32,34-50 and 54-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31,32,34-50 and 85-96 is/are allowed.
- 6) ☒ Claim(s) 54-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau. (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>111104</u> . | 6) <input type="checkbox"/> Other: |

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DETAILED ACTION

1. This application is a CON of 09/717,476 filed November 20, 2000 (Patent No. 6,566,161) which is a DIV of 09/316,777 filed on May 21, 1999 (Patent No. 6,323,055) which claims benefit of 60/086,868 filed May 27, 1998.

Preliminary Amendment

2. Preliminary Amendment filed on October 29, 2003 has been considered.

In Preliminary Amendment, Applicants canceled claims 1-30, 33 and 51-53 and amended claims 76, 79 and 82.

Claims 31-32, 34-50 and 54-96 are pending in the application.

Request for Continued Examination (RCE)

3. Request for Continued Examination (RCE) filed on April 19, 2004 has been acknowledged.

Claims 31-32, 34-50 and 54-96 are currently pending in the application for examination at this time.

Oath/Declaration

4. The oath/declaration filed on January 15, 2002 is acceptable.

Information Disclosure Statement

5. The office acknowledges receipt of the following items from the applicant:

Information Disclosure Statement (IDS) filed on November 11, 2004.

Specification

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6. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 54-84 are rejected under 35 U.S.C. 102 (b) as being anticipated by Kyono et al., hereinafter "Kyono" (Japanese publication 62-297463).

Regarding claims 54, Kyono discloses a tantalum sputtering target blank (see page 3, line 13) comprising tantalum and less than 5 ppm by weight (ppmw) molybdenum or tungsten and less than 3 ppmw niobium (see page 4, line 8 and page 5, lines 1-2).

Claims 55-58, 67 and 70 are rejected for the same reason as claim 54.

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Regarding claim 59, Kyono discloses a tantalum sputtering target blank (see page 3, line 13) comprising tantalum less than 5 ppm each of molybdenum and tungsten, and less than 3 ppmw each niobium (see page 4, line 8 and page 5, lines 1-2).

Claims 60-62, 68 and 71 are rejected for the same reason as claim 59.

Regarding claim 63, Kyono discloses a tantalum sputtering target blank (see page 3, line 13) comprising tantalum and less than 50 ppmw total of molybdenum, tungsten, and niobium (see page 4, line 8 and page 5, lines 1-2).

Claims 64-66, 69 and 72 are rejected for the same reason as claim 63.

Regarding claim 73, Kyono discloses a material comprising tantalum and less than 5 ppmw molybdenum or tungsten, and less than 3 ppmw niobium (see page 4, line 8 and page 5, lines 1-2).

Regarding claim 74, Kyono discloses a tantalum material comprising tantalum and less than 5 ppmw each of molybdenum and tungsten, and less than 50 ppmw niobium (see page 4, line 8 and page 5, lines 1-2).

Regarding claim 75, Kyono discloses a tantalum material comprising tantalum and less than 50 ppmw total of molybdenum, tungsten, and niobium (see page 4, line 8 and page 5, lines 1-2).

Regarding claim 76, Kyono discloses a tantalum material sputtering precursor (see page 3, line 13) comprising tantalum and less than 5 ppmw molybdenum, or tungsten, and less than 3 ppmw niobium (see page 4, line 8 and page 5, lines 1-2).

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Regarding claim 77, Kyono discloses a tantalum material sputtering precursor (see page 3, line 13) comprising tantalum and less than 5 ppmw each of molybdenum, and tungsten, and less than 50 ppmw niobium (see page 4, line 8 and page 5, lines 1-2).

Regarding claim 78, Kyono discloses a tantalum material sputtering precursor (see page 3, line 13) comprising tantalum and less than 50 ppmw total of molybdenum, tungsten, and niobium (see page 4, line 8 and page 5, lines 1-2).

Regarding claim 79, Kyono discloses sputtering tantalum material (see page 3, line 13) comprising tantalum and less than 5 ppmw molybdenum or tungsten and less than 3 ppmw niobium (see page 4, line 8 and page 5, lines 1-2).

Regarding claim 80, Kyono discloses sputtering tantalum material (see page 3, line 13) comprising tantalum, less than 5 ppmw each of molybdenum and tungsten, and less than 50 ppmw niobium (see page 4, line 8 and page 5, lines 1-2).

Regarding claim 81, Kyono discloses sputtering tantalum material (see page 3, line 13) comprising tantalum and less than 50 ppmw total of molybdenum, tungsten, and niobium (see page 4, line 8 and page 5, lines 1-2).

Regarding claim 82, Kyono discloses deposited tantalum material (see page 3, line 13) comprising tantalum and less than 5 ppmw molybdenum or tungsten and less than 3 ppmw niobium (see page 4, line 8 and page 5, lines 1-2).

Regarding claim 83, Kyono discloses deposited tantalum material (see page 3, line 13) comprising tantalum, less than 5 ppmw each of molybdenum and tungsten, and less than 50 ppmw niobium (see page 4, line 8 and page 5, lines 1-2).

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Regarding claim 84, Kyono discloses deposited tantalum material (see page 3, line 13) comprising tantalum and less than 50 ppmw total of molybdenum, tungsten, and niobium (see page 4, line 8 and page 5, lines 1-2).

Allowable Subject Matter

6. Claims 31-32, 34-50 and 85-96 allowed.

The following is a statement of reason for the indication of allowable subject matter:

None of the Prior Art of record does not suggests a layer comprising high purity tantalum, less than about 500 ppm, by weight, total metallic impurities, less than about 20 ppm, by weight, total of tungsten and molybdenum, and less than 50 ppm, by weight, niobium as cited in claim 31 and a sputtering target blank comprising tantalum, less than about 500 ppm, by weight (ppmw) total metallic impurities, less than about 5 ppmw total of molybdenum and tungsten, less than about 100 ppmw oxygen, and less than 50 ppmw niobium as cited in claim 35 and a sputtering target blank comprising tantalum, less than 500 ppmw total metallic impurities, less than 5 ppmw total of molybdenum and tungsten, less than about 100 ppmw oxygen, and less than or equal to 10 ppbw each of uranium and thorium as cited in claim 40 and a sputtering target comprising tantatum, less than 500 ppm by weight (ppmw) total metallic impurities, less than 2 ppmw total of molybdenum and tungsten, and less than 25 ppmw oxygen as cited in claim 41 and an ingot comprising high purity tantalum comprising tantalum, less than about 500 ppm, by weight, total metallic impurities, less than about 50 ppm, by weight, niobium, and less than about 50 ppm, by weight, tungsten or molybdenum as cited in claim 85 and an ingot comprising tantalum, less than about 500 ppm, by weight, total metallic impurities, and less than 5 ppmw each of molybdenum

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and tungsten as cited in claim 89 and a powder comprising high purity tantalum comprising tantalum, less than about 500 ppmw total metallic impurities, less than about 50 ppm, by weight, niobium, and less than about 50 ppmw tungsten or molybdenum as cited in claim 91 and a powder comprising tantalum, less than about 500 ppmw total metallic impurities, and less than 5 ppmw each of molybdenum and tungsten as cited in claim 95.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuc T. Dang whose telephone number is (571) 272-1776. The examiner can normally be reached on 8:00 am-5:00 pm.
8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and After Final communications.
9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Phuc T. Dang

PD



Primary Examiner

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